IN THE UNITED STATES PATENT OFFICE

In re:	Bradford C. Webb
Serial No.	08/870,199
Confirmation No.:	6700
Filed:	June 5, 1997
Examiner:	Z. Fay
Group Art Unit:	1614
For:	SYNTHETIC VISCOELASTIC MATERIAL FOR OPHTHALMIC APPLICATIONS

SUPPLEMENTAL DECLARATION UNDER 37 C.F.R. § 1.175(b)

Mail Stop: REISSUE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Bradford C. Webb, declare that:

1. I am a citizen of the United States of America and reside at 1187 Coast Village Road, No. 501, Santa Barbara, CA 93108. I believe that I am the original, first and sole inventor of the invention described and claimed in U.S. Letters Patent No. 5,422,376 (hereinafter called "Patent") and in the above-identified reissue application ("this application"). As such, I previously submitted, with respect to this application, my declaration dated August 15, 1997, a copy of which is attached hereto as Exhibit A (the "prior declaration"). With the exception of my current residence address stated above and an incorrect reference to claims 30-33 (the correct reference would have been to claims 27-30), I hereby reaffirm the contents of my prior declaration including the portions thereof identifying with particularity the errors which constitute the basis for this reissue application.

2. I have reviewed and understand the scope of the claims being proposed in an amendment that I understand will be submitted with this declaration, a copy of which claims is attached hereto as Exhibit B.

3. Claims 1-30 attached hereto have been amended to require that the hydroxypropylmethylcellulose solution be "free of harmful particulate matter and gels greater than 0.5μm in diameter..."

4. Claims 31-56 correspond to originally issued 26 claims of the Patent.

5. Claims 57 and 58 do not contain the 0.5μm limitation, but instead are limited to blended material corresponding to dependent claims 6 and 10 of the originally issued Patent.

6. I understand that claims 1-30 and 57-58 have been crafted to address the errors identified in my prior declaration. However, to the extent that the amendments discussed above address any errors not covered by my prior declaration, I hereby confirm that any such errors are believed to have arisen without any deceptive intent on the part of the applicant.

I, the undersigned, declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Executed this 4 day of April, 2004

2:05pm

Bradford C. Webb
1187 Coast Village Road, #501
Santa Barbara, CA 93108

EXHIBIT B

IN THE CLAIMS

Claim 1 (currently amended) An improved composition for physiological applications, said composition containing hydroxypropylmethylcellulose in a physiological salt solution, the improvement comprising a hydroxypropylmethylcellose solution free of harmful particulate matter and gels greater than 0.5 μm in diameter, said viscoelastic solution having a zero shear viscosity in excess of 15,000 cps, an average molecular weight in excess of 250,000 Daltons and being pyrogen free and non-toxic when a therapeutically effective amount of said solution is injected into a human body.

Claim 2 (original) The improved composition of claim 1 wherein said composition being pyrogen free and non-toxic when a therapeutically effective amount of the solution is injected into a human eye.

Claim 3 (original) The viscoelastic solution of claim 2 wherein the hydroxypropylmethylcellulose is present in a concentration from about 2.0% to about 2.5%.

Claim 4 (original) The viscoelastic solution of claim 2 wherein the viscosity of the solution is from about 25,000 centipoise to about 40,000 centipoise.

Claim 5 (original) The viscoelastic solution of claim 2 wherein the average molecular weight of the hydroxypropylmethylcellulose is greater than about 375,000 but less than 420,000.

Claim 6 (original) The viscoelastic solution of claim 2 prepared from a blend of a first hydroxypropylmethylcellulose having a first molecular weight and a second hydroxypropylmethylcellulose having a greater molecular weight, the blend being processed to produce the particulate free, pyrogen free, and non-toxic solution.

Claim 7 (original) The viscoelastic solution of claim 6 wherein the blend is processed by filtration, redissolving and removal of low molecular weight material, mid-process autoclaving and removal of dissolved gases.

Claim 8 (original) The viscoelastic solution of claim 7 wherein the hydroxypropylmethylcellulose in the viscoelastic solution after processing has an average molecular weight greater than the average molecular weight of the first hydroxypropylmethylcellulose or the second hydroxypropylmethylcellulose.

Claim 9 (original) The viscoelastic solution of claim 6 wherein the first hydroxypropylmethylcellulose has an average molecular weight of about 85,000 and the second hydroxypropylmethylcellulose has an average molecular weight of about 220,000.

Claim 10 (original) The viscoelastic solution of claim 8 wherein the average molecular weight of the hydroxypropylmethylcellulose after processing is greater than 375,000 but less than 420,000.

Claim 11 (original) The viscoelastic solution of claim 6 having a hydroxypropylmethylcellulose concentration of about 2.3%.

Claim 12 (original) The viscoelastic solution of claim 5 wherein the hydroxypropylmethylcellulose has an average molecular weight of about 410,000.

Claim 13 (currently amended) A process for preparing a viscoelastic solution of hydroxypropylmethylcellulose in a physiological salt solution, the composition having a zero shear viscosity in excess of 15,000 cps and being free of harmful particulate material and gels greater than 0.5 μm in diameter and being pyrogen free and non-toxic when a therapeutically effective amount of said solution is injected into a human eye, the process comprising the steps of:

a) dispersing the hydroxypropylmethylcellulose in the salt solution to form a suspension,

b) heating the suspension of step (a) to about 95°C., allowing any undissolved material to settle and discarding the supernatant liquid above the undissolved material,

c) resuspending the undissolved material to form a second suspension of hydroxypropylmethylcellulose and heating the second suspension to form a thick gel,

d) filtering the gel through a series of filters to form a clean solution,

e) autoclaving the clean solution,

f) cooling the autoclaved clean solution and filtering the cooled solution, and

g) degassing the filtered cooled solution.

Claim 14 (original) The process of claim 13 wherein the physiological salt solution has a pH of about 8.7 and contains NaCl, KCl, $CaCl_2.2H_2O$, $MgCl.6H_2O$, $NaC_2H_3O_2.3H_2,O$, $Na_3C_6HO_7.2H_2O$.

Claim 15 (original) The process of claim 13 wherein the hydroxypropylmethylcellulose dispersed in the aqueous salt solution is a blend of a first hydroxypropylmethylcellulose having a first molecular weight and a second hydroxypropylmethylcellulose having a higher molecular weight.

Claim 16 (original) The process of claim 15 wherein the first hydroxypropylmethylcellulose has a molecular weight of about 85,000 Daltons and the second hydroxypropylmethylcellulose has a molecular weight of about 220,000 Daltons.

Claim 17 (original) The process of claim 15 wherein the weight of the first hydroxypropylmethylcellulose in the suspension is about the weight of the second hydroxypropylmethylcellulose.

Claim 18 (original) The process of claim 15 wherein the hydroxypropylmethylcellulose in the suspension is about 3% by weight.

Claim 19 (original) The process of claim 13 wherein the concentration of the hydroxypropylmethylcellulose in the degassed solution is from about 2.0% to about 2.5%.

Claim 20 (original) The process of claim 13 wherein the concentration of the hydroxypropylmethylcellulose in the degassed solution is about 2.3%.

Claim 21 (original) The process of claim 13 wherein the viscosity of the degassed solution is from about 25,000 centipoise to about 40,000 centipoise.

Claim 22 (original) The process of claim 13 wherein the viscosity of the degassed solution is about 40,000 centipoise.

Claim 23 (original) The process of claim 13 wherein the molecular weight of the hydroxypropylmethylcellulose in the degassed solution is greater than about 375,000 but less than about 420,000.

Claim 24 (original) The process of claim 11 wherein the molecular weight of the hydroxypropylmethylcellulose in the degassed solution is about 410,000.

Claim 25 (currently amended) A viscoelastic composition for injection into a human eye, the viscoelastic composition comprising hydroxypropylmethylcellulose in a physiological salt solution,

the hydroxypropylmethylcellulose having an average molecular weight greater than about 375,000 but less than about 420,000 and being present in a concentration from about 2.0% to about 2.5%,

the composition having a viscosity from about 25,000 centipoise to about 40,000 centipoise being free of harmful particulate matter and gels greater than 0.5 μm in diameter and being pyrogen free and nontoxic.

Claim 26 (original) The viscoelastic composition of claim 25 wherein the concentration of the hydroxypropylmethylcellulose is about 2.3%, the average molecular weight of the hydroxypropylmethylcellulose is about 409,800 and the zero shear viscosity of the composition is about 40,000 centipoise.

Claim 27 (currently amended) A process of preparing a sterile solution of hydroxypropylmethylcellulose in an aqueous solution, the sterile solution having a zero shear viscosity in excess of 15,000 cps and being non-toxic, non-pyrogenic, and substantially free of particulate matter and gels greater than 0.5 μm in diameter and harmful to the human eye, the process comprising the steps of:

a) dispersing hydropropylmethylcellulose in a first part of the aqueous solution to form a suspension;

b) allowing the suspension to settle to yield a supernatant and a sediment; comprising high molecular weight hydroxypropylmethylcellulose;

c) discarding the supernatant, and leaving the sediment;

d) resuspending the sediment in a second part of the aqueous solution to form a gel;

e) filtering the gel through a plurality of successively finer filters to remove harmful particulate and gelatinous matter to form a clean solution; and

f) sterilizing the clean solution.

Claim 28 (original) The process of step 27, wherein step a) is performed at a sufficiently elevated temperature to solvate low molecular weight hydroxypropylmethylcellulose, and step e) is performed at a sufficiently elevated temperature to significantly reduce the viscosity of the gel.

Claim 29 (original) The process of claim 28, wherein the sterilization of the clean solution is effected by autoclaving.

Claim 30 (original) The process of claim 29, comprising the further steps of:

a) cooling the autoclaved clean solution;

b) filtering the cooled solution; and

c) degassing the filtered, cooled solution.

Claim 31 (previously presented) An improved composition for physiological applications, said composition containing hydroxypropylmethylcellulose in a physiological salt solution, the improvement comprising a hydroxypropylmethylcellulose solution free of particulate matter and gels greater than 0.5 μm in diameter, said viscoelastic solution having a zero shear viscosity in excess of 15,000 cps, an average molecular weight in excess of 250,000 Daltons and being pyrogen free and non-toxic when a therapeutically effective amount of said solution is injected into a human body.

Claim 32 (previously presented) The improved composition of claim 31 wherein said composition being pyrogen free and non-toxic when a therapeutically effective amount of the solution is injected into a human eye.

Claim 33 (previously presented) The viscoelastic solution of claim 32 wherein the hydroxypropylmethylcellulose is present in a concentration from about 2.0% to about 2.5%.

Claim 34 (previously presented) The viscoelastic solution of claim 32 wherein the viscosity of the solution is from about 25,000 centipoise to about 40,000 centipoise.

Claim 35 (previously presented) The viscoelastic solution of claim 32 wherein the average molecular weight of the hydroxypropylmethylcellulose is greater than about 375,000 but less than 420,000.

Claim 36 (previously presented) The viscoelastic solution of claim 32 prepared from a blend of a first hydroxypropylmethylcellulose having a first molecular weight and a second hydroxypropylmethylcellulose having a greater molecular weight, the blend being processed to produce the particulate free, pyrogen free, and non-toxic solution.

Claim 37 (previously presented) The viscoelastic solution of claim 36 wherein the blend is processed by filtration, redissolving and removal of low molecular weight material, mid-process autoclaving and removal of dissolved gases.

Claim 38 (previously presented) The viscoelastic solution of claim 37 wherein the hydroxypropylmethylcellulose in the viscoelastic solution after processing has an average molecular weight greater than the average molecular weight of the first hydroxypropylmethylcellulose or the second hydroxypropylmethylcellulose.

Claim 39 (previously presented) The viscoelastic solution of claim 36 wherein the first hydroxypropylmethylcellulose has an average molecular weight of about 85,000 and the second hydroxypropylmethylcellulose has an average molecular weight of about 220,000.

Claim 40 (previously presented) The viscoelastic solution of claim 38 wherein the average molecular weight of the hydroxypropylmethylcellulose after processing is greater than 375,000 but less than 420,000.

Claim 41 (previously presented) The viscoelastic solution of claim 36 having a hydroxypropylmethylcellulose concentration of about 2.3%.

Claim 42 (previously presented) The viscoelastic solution of claim 35 wherein the hydroxypropylmethylcellulose has an average molecular weight of about 410,000.

Claim 43 (previously presented) A process for preparing a viscoelastic solution of hydroxypropylmethylcellulose in a physiological salt solution, the composition being free of particulate material and gels greater than 0.5 μm in diameter and being pyrogen free and

non-toxic when a therapeutically effective amount of said solution is injected into a human eye, the process comprising the steps of:

a) dispersing the hydroxypropylmethylcellulose in the salt solution to form a suspension,

b) heating the suspension of step (a) to about 95° C, allowing any undissolved material to settle and discarding the supernatant liquid above the undissolved material,

c) resuspending the undissolved material to form a second suspension of hydroxypropylmethylcellulose and heating the second suspension to form a thick gel,

d) filtering the gel through a series of filters, the series including a final filter having 0.5μm openings to form a clean solution,

e) autoclaving the clean solution,

f) cooling the autoclaved clean solution and filtering the cooled solution, and

g) degassing the filtered cooled solution.

Claim 44 (previously presented) The process of claim 43 wherein the physiological salt solution has a pH of about 8.7 and contains NaCl, KCl, $CaCl_2.2H_2O$, $MgCl.6H_2O$, $NaC_2H_3O_2.3H_2,O$, $Na_3C_6HO_7.2H_2O$.

Claim 45 (previously presented) The process of claim 43 wherein the hydroxypropylmethylcellulose dispersed in the aqueous salt solution is a blend of a first hydroxypropylmethylcellulose having a first molecular weight and a second hydroxypropylmethylcellulose having a higher molecular weight.

Claim 46 (previously presented) The process of claim 45 wherein the first hydroxypropylmethylcellulose has a molecular weight of about 85,000 Daltons and the second hydroxypropylmethylcellulose has a molecular weight of about 220,000 Daltons.

Claim 47 (previously presented) The process of claim 45 wherein the weight of the first hydroxypropylmethylcellulose in the suspension is about the weight of the second hydroxypropylmethylcellulose.

Claim 48 (previously presented) The process of claim 45 wherein the hydroxypropylmethylcellulose in the suspension is about 3% by weight.

Claim 49 (previously presented) The process of claim 43 wherein the concentration of the hydroxypropylmethylcellulose in the degassed solution is from about 2.0% to about 2.5%.

Claim 50 (previously presented) The process of claim 43 wherein the concentration of the hydroxypropylmethylcellulose in the degassed solution is about 2.3%.

Claim 51 (previously presented) The process of claim 43 wherein the viscosity of the degassed solution is from about 25,000 centipoise to about 40,000 centipoise.

Claim 52 (previously presented) The process of claim 43 wherein the viscosity of the degassed solution is about 40,000 centipoise.

Claim 53 (previously presented) The process of claim 43 wherein the molecular weight of the hydroxypropylmethylcellulose in the degassed solution is greater than about 375,000 but less than about 420,000.

Claim 54 (previously presented) The process of claim 41 wherein the molecular weight of the hydroxypropylmethylcellulose in the degassed solution is about 410,000.

Claim 55 (previously presented) A viscoelastic composition for injection into a human eye, the viscoelastic composition comprising hydroxypropylmethylcellulose in a physiological salt solution,

the hydroxypropylmethylcellulose having an average molecular weight greater than about 375,000 but less than about 420,000 and being present in a concentration from about 2.0% to about 2.5%,

the composition having a viscosity from about 25,000 centipoise to about 40,000 centipoise, being free of particulate matter and gels greater than 0.5 μm in diameter and being pyrogen free and nontoxic.

Claim 56 (previously presented) The viscoelastic composition of claim 55 wherein the concentration of the hydroxypropylmethylcellulose is about 2.3%, the average molecular weight of the hydroxypropylmethylcellulose is about 409,800 and the zero shear viscosity of the composition is about 40,000 centipoise.

Claim 57 (new) An improved composition for physiological applications, said composition containing hydroxypropylmethylcellulose in a physiological salt solution, the improvement comprising a hydroxypropylmethylcellulose solution free of harmful particulate matter and gels, said viscoelastic solution having been prepared from a blend of a first hydroxypropylmethylcellulose having a first molecular weight and a second hydroxypropylmethylcellulose having a second molecular weight different from said first molecular weight, said solution being characterized by a zero shear viscosity in excess of 15,000 cps, an average molecular weight in excess of 250,000 Daltons, and being pyrogen free and non-toxic when a therapeutically effective amount of said solution is injected into a human body.

Claim 58 (new) The composition of claim 57, wherein the average molecular weight of the blended hydroxypropylmethylcellulose in the solution is greater than 375,000 Daltons, but less than 420,000 Daltons.